

# Daily GLOWBUGS

## Digest: V1 #106

via AB4EL Web Digests @ SunSITE

Purpose: building and operating vacuum tube-based QRP rigs

[AB4EL Ham Radio Homepage @ SunSITE](#)

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%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%%

**Subject: glowbugs V1 #106**

**glowbugs**

**Sunday, September 7 1997**

**Volume 01 : Number 106**

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Date: Fri, 5 Sep 1997 15:18:27 +0000

From: dlwade@pacbell.net

Subject: Workbench ideas

Greetings glowbuggers and VSS'ers

After buying a house earlier this summer, the time has come to set up an BA/GB/VSS workshop in a corner of the garage.

I am calling on your collective wisdom to get an idea on do's, don'ts and whatever else you may think would be useful to know before building a work area, including size of the work area, arrangement of test equipment and lighting ideas.

Test equipment so far consists of a Tek 545 scope (on a cart), HP-412 DC voltmeter and TS-497C and Measurements model 66-B sig gens. High on the want list for the next Foothill swap are a general purpose VTVM and audio osc (HP-200 type). (would a power supply be useful, suggestions?)

Uses will be mostly BA repair, and GB/VSS experimentation.

Any and all ideas are welcome! If the response warrants, I'll repost a digest of the ideas I get.

Thanks,

Dennis

Dennis L. Wade

KG6ZI

Sacramento, CA

Repy to: dlwade@pacbell.net

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Date: Sat, 6 Sep 1997 18:10:51 -0500 (CDT)

From: Bob Roehrig <broehrig@admin.aurora.edu>

Subject: Cheap/easy/effective AGC

I was playing around with the navy RCH receiver recently obtained and, as with all pre-product detector receivers, I get frustrated by trying to use it in the CW mode with no AGC.

In this particular unit, there is conventionally derived rectified IF AGC in the AM mode, but in CW, the AGC bus is shorted directly to a negative bias supply (derived from a 50 ohm resistor in the HV xfmr center tap to ground). In most receivers, the AGC would simply be shorted to ground.

Not wanting to really modify this unit, I thought I'd try audio-derived AGC, and it is outstanding. This simple circuit could be applied to anything from an ARC-5 to a HRO.

The circuit is simply a conventional half-wave voltage doubler. I used a pair of 3.3uf 50V caps and a pair of 1n4001 diodes. I tack soldered a 2K pot across the 600 ohm output transformer terminals (one is grounded) and that feeds the circuit. The output is loaded with a 470K resistor

and connected to the AGC bus. In this receiver, that is accomplished by removing the wire to the mode switch that comes from the fixed bias source and connecting the detector output to that switch lug.

I tuned in a fairly strong SSB station on 40 meters, then cranked up the gain until the signal started to distort, then adjusted the 2K pot until I started to get AGC action. Thereafter, the gain could be cranked up all the way with no distortion and all signals in the round-table sounded identical in level.

AS I said, this same scheme should work with a great many receivers. The pot value should be a few times higher than the output impedance to prevent loading. This circuit has a time constant of around 1.5 seconds decay, which works great for both CW and SSB.

E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI  
CIS: Data / Telecom Aurora University, Aurora, IL  
630-844-4898 Fax 630-844-5530

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Date: Fri, 5 Sep 1997 17:25:22 +0000  
From: dlwade@pacbell.net  
Subject: Re: ISDN to DNS down and secondary DNS down at the same time, f

Hello Bob,

Although your message says the problem is fixed, I have been trying (over the last half hour or so) to post a message to:

glowbugs@www.atl.org

10-15 min later, I get a message from:

Administrator\_at\_ushmm@inetgate.ushmm.org

saying the message is undeliverable, with no other information.

Is something wrong, or is my address wrong?

Thanks,

Dennis

Dennis L. Wade  
KG6ZI  
Sacramento, CA  
Repy to: dlwade@pacbell.net

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Date: Fri, 5 Sep 1997 16:46:01 +0000  
From: dlwade@pacbell.net  
Subject: (Fwd) Workbench ideas

- ----- Forwarded Message Follows -----

From: Self <Single-user mode>  
To: glowbugs@www.atl.org  
Subject: Workbench ideas  
Cc: vss@mlist.access.digex.net  
Reply-to: dlwade@pacbell.net  
Date: Fri, 5 Sep 1997 15:18:32

Greetings glowbuggers and VSS'ers

After buying a house earlier this summer, the time has come to set up an BA/GB/VSS workshop in a corner of the garage.

I am calling on your collective wisdom to get an idea on do's, don'ts and whatever else you may think would be useful to know before building a work area, including size of the work area, arrangement of test equipment and lighting ideas.

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Uses will be mostly BA repair, and GB/VSS experimentation.

Any and all ideas are welcome! If the response warrants,

I'll repost a digest of the ideas I get.

Thanks,

Dennis

Dennis L. Wade  
KG6ZI  
Sacramento, CA  
Repy to: dlwade@pacbell.net

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Date: Sun, 07 Sep 1997 10:30:21 +0100  
From: BOB DUCKWORTH <bob@atl.org>  
Subject: Re: Workbench ideas

Workbench ideas.

Comfortable but not carpeted floor.  
Height for standing work and a bar stool with telephone insulators  
to eliminate 'through the butt' currents. (unless you're really  
keen or rolling around while seated).

Let me know about lighting. It's a constant problem here.  
Flourescents are too noisy and Halogens too hot.  
Also need a good quality, glass, large, easy to move, lighted  
magnifier. If you find a source, let me know.

The big decision is, do you want to bring the test gear to the work  
or the work to the test gear. Once this decision is made the rest is  
pretty straight forward.

You'll never have enough:  
space, bench top, power, light, time

- -bob  
wb4mnf

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Date: Sun, 7 Sep 1997 08:46:04 -0700  
From: "John Burch" <occupant@ns.net>  
Subject: Re: Workbench ideas

- - - - -  
> From: BOB DUCKWORTH <bob@atl.org>  
> To: dlwade@pacbell.net  
> Cc: glowbugs@www.atl.org; vss@mlist.access.digex.net  
> Subject: Re: Workbench ideas  
> Date: Sunday, September 07, 1997 2:30 AM  
>  
> Workbench ideas.  
>  
> Comfortable but not carpeted floor.  
> Height for standing work and a bar stool with telephone insulators  
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> Let me know about lighting. It's a constant problem here.  
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>  
> You'll never have enough:  
> space, bench top, power, light, time

Or CATS!

>  
> -bob  
> wb4mn

de John  
wb6gha

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Date: Sun, 07 Sep 1997 16:07:04 +0100  
**From:** BOB DUCKWORTH <bob@atl.org>  
**Subject:** Re: Workbench ideas

John Burch wrote:  
>  
> Or CATS!  
with preserved mustard greens. mmmmm caaaats

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Date: Sun, 7 Sep 1997 18:43:15 -0500 (CDT)  
**From:** Bob Roehrig <broehrig@admin.aurora.edu>  
**Subject:** Re: Workbench ideas

On Sun, 7 Sep 1997, BOB DUCKWORTH wrote:

> Let me know about lighting. It's a constant problem here.  
> Flourescents are too noisy.

I think this has been discussed before. My shop is also my hamshack and I have both fluorescent and incandescent lighting. When I need bright lights for the benchwork, the fl-- lamps come on. When I am at the rig, they are usually off and the goosneck 75watt job comes on. I have not in recent years had trouble with noisy fl-- lights. If the bulbs are in good shape and the ballast is not leaking to frame, they should be quiet enough.

> Also need a good quality, glass, large, easy to move, lighted  
> magnifier. If you find a source, let me know.

Absolutely agree here. Don't mess with the cheapos - get a Luxo! I also have a normal goosneck type lamp on the other end of the bench so I can get concentrated light from 2 angles, both movable.

> The big decision is, do you want to bring the test gear to the work  
> or the work to the test gear. Once this decision is made the rest is  
> pretty straight forward.

My bench setup consists of a sturdy formica-topped top 2 1/2 by 4 feet fastened between two 6 foot Bud enclosed relay racks. There are two equipment shelves above this and one below (just above floor level) which are not as deep. Both racks are on rollers so the whole thing can be swung away from the wall if necessary. That way both rackmounted and shelf-type test equipment is within reach and visible.

For the real tough bench work, like drilling, sawing, and grinding, etc, I have a separate bench in the garage made from an old oak library table top sitting on an old set of kitchen sink cabinets. The doors/drawers are great for storing the Skill saw, jig saw, router, etc.

For lighting out there I have several 200 watt bulbs in a row on the ceiling plus a 75 watt flood aimed at the drill press. I don't use fl-- lamps in the garage because they don't start in the winter temps.

E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI  
CIS: Data / Telecom Aurora University, Aurora, IL  
630-844-4898 Fax 630-844-5530

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Date: Sun, 7 Sep 1997 21:39:51 -0600 (MDT)  
**From:** Shane <toyboat@freenet.edmonton.ab.ca>  
**Subject:** RS transformers

Hello All,

RS has a transformer rated at 25VAC C.T. and 3A. That would work out to 75VA for primary and secondary windings. The primary should handle about (75VA / 115VAC = .652A). Right so far?

If I fed in 115VAC to the secondary, the primary should deliver about 529VAC, according to the turns ratio. Since it's center-tapped, I could get 264VAC out by just using one side of the secondary as my 115VAC primary.

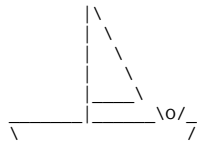
Here it gets a little confusing. Common sense tells me that, from the size of the transformer, it should be good for about 60 or 70

mA output at around 250VDC, loaded. However, if each winding is good for 75VA and the wire gauge in the intended-for secondary winding is good for 3A, then this winding used as the primary should be able to handle  $75\text{VA} / 115\text{VAC} = .653\text{A}$  or 653mA with no problem. Likewise, the intended-for primary winding has a rating of 653mA, so should be able to handle this as a secondary at either 264VAC or 529VAC. At  $75\text{VA} / 264\text{VAC} = 284\text{mA}$ , this is more than my common sense guess of 60 or 70mA.

I realize that phase-shifting might play a factor here that I have not accounted for, or does it? Did I screw up in some basic way here?

It would \*seem\* that this transformer would make a good little power supply component for a small CW transmitter, when run in reverse. Would it? What would its maximum current output be in the cases above?

Regards,  
Shane Wilcox



~~~~~  
Shane <toyboat@freenet.edmonton.ab.ca>  
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End of glowbugs V1 #106  
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Created by **Steve Modena, AB4EL**  
Comments and suggestions to [modena@SunSITE.unc.edu](mailto:modena@SunSITE.unc.edu)

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